

MISCELLANEOUS NOTES

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36. A NOTE ON PHYTOGEOGRAPHICAL DISTRIBUTION OF FERNS AND FERN-ALLIES OF ALMORA (W.H.)

Western Himalayan tracts have been explored extensively for pteridophytes from time to time by a number of workers (see Awasthi & Sharma 1980) but Almora, an important Kumaon area remained unexplored. This has necessitated a detailed investigation of pteridophytes of Almora situated at an altitudinal range of 1500 m to 2100 m. Mainly Almora proper and its suburbs which include Chitai, Kalimati, Simtola, Kasar devi, Ranidhara etc. were explored extensively.

The soil in this area is compact yellow to brownish black clay and is rich in magnesium salts. In the forests, ground floor is usually covered with a thick layer of humus formed by organic decay and thus provides a good substratum for the growth of terrestrial species. Conifers namely *Pinus roxburghii* and *Cedrus deodara* form an important part of the vegetation of this area. At Chitai, Kasar Devi and Kalimati pure stands of conifers are present. At other places intermingled with these are species of *Quercus*, *Rhododendron*, *Ficus*, *Eugenia*, *Bauhinia*, *Terminalia* etc. The ground flora consists mainly of *Anaphalis*, *Polygonum*, *Geranium*, *Pimpinella*, *Fragaria*, *Desmodium*, *Indigofera*, *Crotolaria* etc. The

shrubs which are common in this area include *Berberis*, *Reinwardtia*, *Flemingia*, *Woodfordia*, *Rhus* etc.

In all 55 species of pteridophytes, 51 belonging to ferns and 4 to fern allies have been collected from this region (see Table 1).

Lycopodium cernuum Linn., which was found growing on dry exposed slopes is an interesting species. It has not been reported earlier from western Himalayas, though it has been reported by Mehra & Bir (1964) from eastern Himalayas. *Botrychium daucifolium* Wall., is another interesting species which has been recorded earlier only from Garhwal region of western Himalayas by Awasthi and Sharma (1980). It was found growing on moist-shady slopes at Kasar Devi and Simtola. Other interesting species include *Lygodium flexuosum* (L.) Sw. (as climber on bushes), *Onychium siliculosum* (Desv.) C. Chr. (on moist-shady rocks), *Athyrium setiferum* C. Chr. (on moist-shady slopes), *Ctenitis hendersonii* (Bedd.) H. (on exposed dry rocks), *Oleandra wallichii* (Hook.) Presl. (on damp and shady slopes), *Abacopteris multilineata* (Wall.) Ching (along streams), *Cyclosorus megaphyllus* (Mett.) Ching (on the forest floor),

Pyrrosia mollis (Kze.) Ching (epiphyte on Oak tree), *Microsorium membranaceum* (D. Don) Ching (epiphyte on the lower part of the trunk of trees), *Arthromeris wallichiana* (Spr.) Ching (in moist and shady places), *Phymatodes hastata* (Thunb.) Ching (on exposed rocks), *P. malacodon* (Hook.) Ching (on tree trunks of *Quercus* and *Rhododendron*) etc.

The ferns and fern-allies which are met with in this area are also common in the adjoining hills. 58% species are common to Kumaon hills which include National and Ranikhet; 74.5% species are common to Garhwal Himalayas; 74.5% species are com-

mon to Himachal Pradesh hills which include Simla, Dalhousie and Dharamsala and 43.6% species are common to Kashmir Himalayas. On regional basis, the phytogeographical distribution of these reveals that: (a) 78.1% species are common to eastern Himalayas; (b) 42% species are common to southern hills; (c) 22% species are common to central Himalayas (i.e. Pachmari). (d) 92% species are common to western Himalayas; (e) 76.3% species are common to both eastern and western Himalayas; (f) 21.8% species are met only in western Himalayas; (g) 1.9% species are met only in eastern Himalayas.

TABLE 1

<i>Lycopodium cernuum</i> Linn.	<i>D. chrysocoma</i> (Christ) C. Chr.
<i>Selaginella chrysocaulos</i> Hook & Grev.	<i>Polystichum aculeatum</i> (L.) Roth
<i>S. chrysorrhizos</i> Spr.	<i>P. squarrosum</i> (D. Don) Fec
<i>Equisetum debile</i> Roxb.	<i>P. stimmlans</i> Presl.
<i>Ophioglossum reticulatum</i> Linn.	<i>Tectaria macrodonta</i> (Fee) C. Chr.
<i>Botrychium lanuginosum</i> Wall.	<i>Ctenitis hendersonii</i> (Bedd.) H.
<i>B. daucifolium</i> Wall.	<i>Nephrolepis cordifolia</i> (Linn.) Presl.
<i>Lygodium flexuosum</i> (L.) Sw.	<i>Oleandra wallichii</i> (Hook.) Presl.
<i>Onychium japonicum</i> (Thbg.) Kze.	<i>Araiostegia multidentata</i> (Bedd.) Copel.
<i>O. siliculosum</i> (Desv.) C.	<i>Davallia trichomanoides</i> var. <i>lorrainei</i> (Hance)
<i>O. contiguum</i> (Wall.) Hope	Holttt.
<i>Pteris quadrianrita</i> Retz.	<i>D. bullata</i> Wall.
<i>P. asperula</i> J. Sm.	<i>Asplenium dalhousiae</i> Hook.
<i>P. cretica</i> Linn.	<i>A. ensiforme</i> Wall.
<i>P. vittata</i> Linn.	<i>A. varians</i> Wall.
<i>Cheilanthes farinosa</i> (Forsk.) Kaulf.	<i>A. trichomanes</i> Linn.
<i>C. albomarginata</i> Clarke	<i>Abacopteris multilineata</i> (Wall.) Ching
<i>Adiantum capillus-veneris</i> Linn.	<i>Ampelopteris prolifera</i> (Retz.) Copel.
<i>A. incisum</i> Forsk.	<i>Cyclosorus megaphyllus</i> (Melt.) Ching
<i>A. philippense</i> L.	<i>Pyrrosia mollis</i> (Kze.) Ching
<i>A. venustum</i> Don	<i>Lepisorus nudus</i> (Hook.) Ching
<i>Pteridium aquilinum</i> (L.) Kuhn	<i>L. excavatus</i> (Bory) Ching
<i>Athyrium nigripes</i> (Bl.) Moore	<i>Polypodium lachnopus</i> Wall.
<i>A. setiferum</i> C. Chr.	<i>P. amoenum</i> Wall.
<i>Diplazium polypodioides</i> Blume	<i>Microsorium membranaceum</i> (D. Don) Ching
<i>Hypodematiium crenatum</i> (Forsk.) Kuhn	<i>Arthromeris wallichiana</i> (Spr.) Ching
<i>Dryopteris odontoloma</i> (Moore) C. Chr.	<i>Phymatodes hastata</i> (Thunb.) Ching
<i>D. sparsa</i> Ham. ex. Don	<i>P. malacodon</i> (Hook.) Ching

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37. NOMENCLATURAL NOTES ON SOME PLANTS FROM MAHARASHTRA

During our studies of the Flora of Sindhurdurg district we have come across some plant names which need corrections with reference to the rules of 'International Code of Botanical Nomenclature'. In this communication, we have discussed the status of the names of three common endemic species from Maharashtra.

1. *Mammea longifolia* (Wight) Planch. & Triana, in *Ann. Sci. Nat. Ser.* 4, 15 : 240, 1861. *Calysaccion longifolius* Wight, *Ill.* 1 : 130, 1840 & *Icon. t.* 1999, 1844. *Ochrocarpus longifolius* Benth. ex T. Anders., in *Fl. Brit. India* 1 : 270, 1874. *Calophyllum suriga* Buch.-Ham. ex Roxb., *Fl. Ind.* 2 : 608, 1832. *Mammea suriga* (Buch.-Ham.) Kosterman, in *Comm. For. Res. Inst. Indonesia (Bogor)* 72 : 23, f. 19, 1961; Santapau, in *Bull. Bot. Surv. India* 3 : 19, 1961.

Kosterman (1.c.) made a new combination, in genus *Mammea* Linn., based on Buchanan Hamilton's name *Calophyllum suriga* published by Roxburgh. Rev. Fr. H. Santapau adopted Kosterman's name for our common Indian species known by popular local name

as "Surangi" and since then it has been used in Indian Floras as the correct name. However, we have found that the basionym of Kosterman's new combination is a superfluous name and has to be rejected. Roxburgh, in the protologue of his new name has cited *Calophyllum soulattri* Burm. f. as a direct synonym. According to Article no. 63¹ of ICBN, Roxburgh's name becomes an illegitimate name and should be rejected. The earliest valid name for the species is *Calysaccion longifolium* Wight. Since the genus *Ochrocarpus* Thouars is merged with *Mammea* Linn. the correct name for the species should be *Mammea longifolia* (Wight) Planch. et Triana.

2. *Embelia acutipetalum* (Lamk. ex Hasskarl) Comb. nov. *Basal* no. 1, Lamk., *Encycl.* 1 : 381, 1783. *Basal acutipetalum* Lamk. ex Hasskarl, *Hort. Malab. Rheed. clavis*, 40, 1867;

¹ Article 63 states, "A name is illegitimate and is to be rejected if it was nomenclaturally superfluous when published, i.e. if the taxon to which it was applied, as circumscribed by its author, included the type of a name or epithet which ought to have been adopted under the rules."